index 2001

Subject

A-level chemistry, influence on students' career choice, 126
A-level chemistry, revised Salters' syllabus, 131
A-level experiments, azo dyes, 14
Acid–base reactions, balancing equations, 21
Advanced Higher qualification, 88C
Afzal, Mo, RSC award winner, 115C
Air sampling, undergraduate experiment, 51
Alcoholism, drugs for treating, 53
Alzheimer's disease, drug target, 53
Amphetamine-based drugs, 123
Analytical science awards, 64C
Anticancer drugs, 60C, 120C, 134
Antimalaria drug, lanam, 8L
AS curriculum, 95L, 112, 122L
AS practical assessment, 112
ASE, Surrey, 32C
Astrochemistry, 31C
Azo dyes, 14

Baeyer, Adolf, 70
Balancing chemical equations, 21
Benedict's reagent, misconception, 122L, 150L
Biological drug synthesis, 66
Bohrium, first compounds of, 118C
Book reviews
  A-level, chemistry, 26, 54, 82, 110, 138, 139
  Analytical chemistry, undergraduate, 27, 139
  AS, chemistry, 165
  Atmospheric chemistry, undergraduate, 55
  British chemical industry, 83
  Calculations, A-level chemistry, 165
  Chemical plant safety, general, 111
  Chemistry, GCSE–undergraduate, 138
  Chemistry, general, 166
  Chemistry of iron, general, 139
  Chocolate, food science, 139
  Computers, undergraduate chemistry, 27
  Environmental chemistry, 83
  Exploring science, year 7, 110
  GCSE, chemistry, 26, 110, 165
  Green chemistry, general, 55
  Inorganic chemistry, undergraduate, 82, 111, 166
  Materials chemistry, undergraduate, 55
  Maths skills, science A-level, 54
  Organic chemistry, undergraduate, 27, 54, 166
  Physical chemistry, undergraduate, 83
  Physics for chemists, undergraduate, 111
  Process development, 83
  Science education research, general, 55
  Spectroscopy, undergraduate, 139
  Teaching chemistry, 87C
  Water, physical chemistry, 111

Cancer, drug treatments, 134
Carbohydrates, role in biological systems, 96
Carbon, gas absorption, 53
Carboplatin, anticancer drug, 134
Careers, chemistry students, 8L, 38L, 126
Catalysis, 99
Cativa process, development of, 99
Centre of Excellence for Science teaching, 144C
Change of state, student misconceptions, 92C
Charter for science and engineering, 59C
Chemical concepts, 36C, 92C, 147C
Chemistry at the biological interface, problems in teaching, 87C
Chemistry curriculum, external view, 38L
Chemistry for the citizen, course, 10
Chemistry teacher recruitment, 84
Chemistry teachers, shortage, 3C, 65L
Chemistry teaching, by biologists, 3C, 65L
Chemistry trails, 23C, 63C, 121C
Chemistry Week, 63C
Chemistry within, chemistry without, course, 72
Chemingo, 35C, 91C, 146C
Chemosynthetic bacteria, 155
Chloral hydrate, Mickey Finn, 56
Chromium(III) ion, colour, 65L
Cisplatin, anticancer drug, 134
Citizen's chemistry course, teaching, 11
Cognitive development, CASE materials, 81
Colloid–crystal chemistry, 105
Colloids, food, 121C
Combinatorial chemistry, 66
Combretastin, soundbite, 120C
Conducting polymers, Nobel prize, 4C
Context-based teaching, Salters' chemistry, 131
CPD, school teachers, 5C, 31C, 58C, 61C
Course design, independent learning, 49
Creativity in chemistry, University of Bath, 122L
Curly arrow, theoretical organic chemistry, 102
Curriculum 2000, 3C, 118C

Data logging, teachers' experience of, 81
Demonstration–lecture, *Explosives*, 158
Density, guide to metal reactivity, 78
Depleted uranium, soundbite, 34C
Distillates, chemical education, 25, 81, 137
Distillates, chemistry, 53, 109, 164
Double-diffusive convection, examples of, 108
Drebbel, Cornelius, 140
Drug discovery, 66
Dyes, Chemingo, 91C, 146C
Dyes, from lichen, 151

Ecstasy, 123
Electrochemical cell, solid state, 41
Electron configuration, 161
Environmental issues, landfill, 75
Environmental issues, polyurethane foams, 45
E-numbers, 63C
Enzymes, 128
EPSRC, analytical awards, 64C
EPSRC, Partnership for Public Awareness awards, 89C
Ethanoic acid, Cativa process, 99
Explosives, 143C, 158

Fast-ion conductors, 40
Frontiers of science, conference, 61C, 115C
Fuel cells, 41

Gas chromatography, for undergraduates, 51
Gene therapy, 130
Glasgow Science Centre, 119C
Glycobiology, carbohydrates, 97
Goeppert-Mayer, Maria, 47
Gness, Peter, 13

Hassium, first compounds of, 118C
HE, qualifications frameworks, 2C, 59C
Health and Safety, polyurethanes, 44
Health and Safety, science experiments, 31C
Heeger, Alan, Nobel prizewinner, 4C
History of chemistry, azo dyes, 12
History of chemistry, curly arrow, 102
History of chemistry, dyes, 12, 151
History of chemistry, Ecstasy, 123
History of chemistry, indigo, 69
History of chemistry, oxygen, 140
History of chemistry, sedatives, 56
Hodgkin, Dorothy, 87C
HPLC, for undergraduates, 52
Human genome, 128
Hydrothermal fluids, chemistry of, 154

Ideas and evidence, teaching of, 32C
Indigo, experimental methods, 71
Indigo, structural determination of, 69
Industrial chemistry, BP Cativa process, 99
Infectious diseases, roles of carbohydrates, 97
InfoChem
  Air pollution, lawn mowers, no 70
  Analytical chemistry, TIMS, no 69
  Anthocyanin, no 71
  Antidepressants, St John's wort, no 68
  Antipsychotic drugs, no 67
  Autumn leaf colours, no 71
  Diabetes, no 68
  Dopamine, no 67
  Food packaging, argon, no 72
  Foot and mouth disease, no 70
  Geranium, pest defence, no 72
  Herbal medicines, no 68
  History of chemistry, disinfectants, no 70
  Mummification, no 72
  Nanjing Man, no 69
  Natron, preservative, no 72
  Noni plant, target for TB drug, no 71
  Peanut allergy, no 70
  Pigments, no 71
  PTFE, no 67
  Radioactive decay, no 69
  Schizophrenia, no 67
  Serotonin, no 67
Ingold, Christopher, 104
Ionic solids, fast-ion conductors, 39
Iridium, Cativa process, 101
Iron(II) chloride, recycling plastics, 109
Isotopes, neutron:proton ratio, 46

Johnson Matthey, National Chemical Landmark award winner, 60C

Key skills, QCA update, 145C
Kinetic particle theory, teaching of, 36C

Landfill, chemistry of, 75
Lapworth, Arthur, 103
Lanam, trifluoromethyl-substituted quinoline, 8L
Leacheate from landfill, treatment of, 76
Lichen dyes, experimental methods, 153
Liesegang rings, 105, 122L
Linezolid, soundbite, 90C

MacDiarmid, Alan, Nobel prize winner, 4C
Magnesium dibromide, superconductors, 59C
Marijuana, soundbite, 145C
Matches, soundbite, 62C
McCrone report, 61C, 119C
MChem/MSci qualifications, 2C
Melting point, guide to metal reactivity, 78
Metallocenes, anticancer agents, 135
Mini-projects for opened-ended practical work, University of York, 93C
Misconceptions, reaction, 28, 147C

National Historic Chemical Landmark, RSC, 60C, 87C
New particle synthesis, shell model, 48
Nitric oxide, binding mechanism, 53
Nobel prize, chemistry, 4C
North of the border, 61C, 88C, 119C, 144C
Nucleus, shell model, 46

Ocean chemistry, hydrothermal vents, 154
Oestoclast cell biochemistry, 16
Oestrogen protein receptor, 10
Olympiad competition, 117C
Orchil, dyestuff, 151
Osteoporosis, 15, 72
OU chemistry, course design, 49
OU TV guide, 24
Oxygen, discoverer of, 140

Pectin, anticancer agent, 164
Peptides, solid phase synthesis of, 67
Periodic Table, humorous, 94L
PGCE recruitment and training, 3C, 84
Phosphorous, biochemistry, 72
Polymer chemistry, polyurethanes, 43
Practical chemistry, reproducing experiments, 8L
Practical work, external assessment, 81
Precipitation reactions, balancing equations, 22
Project work, GCSE-level, 93C
Protein biochemistry, 128
Protein drugs, 130
Proteomics, 129
Public understanding of science, 30C, 86C

QAA, qualifications framework, 2C
QCA, key skills update, 145C
QCA, review of *Curriculum 2000*, 118C
Qualification frameworks, HE, 59C

Rates of reaction, 23
Reactions, student misconceptions, 14C
Reactivity of metals, teaching of, 77, 161
Redox reactions, balancing equations, 22
Rhythmic banding, experiments, 106, 122L
Roberts' report, supply of researchers, 114C
Robinson, Robert, 102
RSC, analytical awards, 64C
RSC, Chemical Education Research Group, on chemistry teachers, 3C
RSC, comment on Schools: achieving success, 142C
RSC, House of Lords select committee on Science and Technology, 31C
RSC, National Historic Chemical Landmark, 60C, 87C
RSC, Olympiad team, 117C
RSC, publish Starter investigations, 144C
RSC, response to Centre of Excellence for Science Teaching, 144C
RSC, response to Schools: building on success, 87C
RSC, Royal Charter and bylaws, 3C
RSC, schools–university interface materials, 33C
RSC, *Science and the election*, 59C
RSC, *Science and the public: learning and the future*, 86C
RSC, *Science in schools*, 58C
RSC, Science Year, 30C
RSC, *Top of the bench* winners, 60C

S² electron configuration, metal properties, 151
Salters' advanced chemistry course, 131
Salters' Chemistry Teacher, 2000, 3C
Secondary education, white paper 142C
Scanning tunnelling microscopy, 109
Schools: building on success, green paper, 87C
Schools–university interface, support materials, 33C
Science curriculum, public understanding, 11
Science education research, influence on teachers, 25
Science issues, teaching of, 116C
Science researchers, supply of, 114C
Science Year, 30C
Scientific language, consistency, 8L, 38L
Scottish Qualifications Framework, 2C
Sedatives, chloral hydrate, 56
Shaw, Brian, 160
Shell model, nucleus, 46
Shirakawa, Hideki, Nobel prizewinner, 4C
Software reviews
  AS chemistry, 165
  Crocodile chemistry, GCSE and A-level, 26
  Labmouse 3, 138
  Spectroscopy, A-level, 26
Solid state chemistry, ionic conductors, 39
Soundbite molecules, 6C, 34C, 62C, 90C, 120C, 145C
Specialist schools, 142C
Spelling, QCA, 94L
SQA exam results, 61C, 144C
States of matter, student misconceptions, 92C
Stoichiometry, 150L
Student funding, 150L
Students' perception of science, 137
Sulphur, spelling, 95L, 150L
Superconductors, magnesium dibromide, 59C
Syllabus content, A-level chemistry, 37L, 38L

Tamoxifen, heart disease, 109
Teaching about science, materials, 33C
Teaching chemistry, 49, 168
Teaching media, types of, 50
Teacher recruitment, 3C
Tumour cells, surface carbohydrates, 97

Undergraduate experiment, air sampling, 51
Undergraduate experiment, double-diffusive convection, 108
Undergraduate experiment, indigo, 71
Undergraduate numbers, chemistry, 8L, 37L, 65L, 94L, 127
University of Oxford, National Historic Chemical Landmark award winner, 87C

Vaccines, surface carbohydrates, 98
Van Praagh, Gordon, 87C

Water pollution, landfill leacheate, 76
Web watch, 7C, 42, 72, 95, 151

Zanamivir, soundbite, 6C

Key

C – Column
L – Letter to the editor

Authors

Bailey, P., 8L
Barker, V., 36C, 84, 92C, 126, 147C
Baskerville, S., 75
Bennett, S. W., 49
Berry, M., 88C
Billington, D. C., 66
Birkett, D., 43
Booth, H., 158
Borrows, P., 23, 63C, 121C
Bradley, D., 4C, 53, 109, 164
Brown, T. M., 12, 56, 69, 102, 151
Chamberlin, J., 65L
Childs, P., 35C, 91C, 146C
Collie, P., 7C, 42, 74, 95, 157
Cooksey, C. J., 69, 151
Cotton, S., 6C, 34C, 62C, 90C, 118C, 120C, 145C
Cox, J., 122L
Dickson, N., 8L, 38L, 65L, 95L
Dronsfield, A. T., 9L, 12, 56, 69, 102, 122L, 123, 140, 151
Ellis, P. M., 56, 123
Evans, W., 75
Fletcher, J. R., 51
Flood, W., 38L, 122L, 150L
Gadd, K., 33C
Garratt, J., 94L
Gray, C., 61C, 89C, 119C, 144C
Gross, M., 128
Harrison, M. A., 15
Haslam, E., 17
Hathaway, B., 21
Haynes, A., 99
Hill, M., 140
Holman, J., 10, 37L, 93C, 131
Hoppe, J., 65L, 150L
Hubbard, A., 38L, 95L
James, R., 154
Kauffman, G. B., 38L
Kee, T. P., 15, 72
Kötter, K., 108
Laing, M., 77, 161
Lee, P., 8L, 122L
Lewis-Kell, A., 150L
Markus, M., 108
McGowan, P. C., 72, 134
Morris, P. J. T., 102
Moxon, T., 105
Murphy, B., 21
Nelson, P. G., 168
Osborn, H., 96
Parkinson, J., 25, 81, 137
Pilling, G., 131
Pinto, G., 150L
Rayner-Canham, G. W., 46
Smart, L. E., 39
Sunderland, S., 9L, 94L
Taber, K., 28
Thackray, S., 112
Waddington, D., 131
Walker, J. S., 12
Wallace, R., 65L
Warren, D., 32C
Willcocks, L. A., 51
Woods, G., 94L